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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,894	09/04/2003	Takahiro Kawaguchi	03544/LH	7671

1933 7590 09/21/2004

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EXAMINER

COLILLA, DANIEL JAMES

ART UNIT PAPER NUMBER

2854

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/655,894	<b>Applicant(s)</b> KAWAGUCHI, TAKAHIRO	
	<b>Examiner</b> Daniel J. Colilla	<b>Art Unit</b> 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 September 2003 and 07 May 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9-14 and 18 is/are rejected.
- 7) ☒ Claim(s) 6-8 and 15-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20040507</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “36” has been used to designate both the holding member (pg. 12, lines 5 and 8) and the receiving member (pg. 12, line 22). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: on page 13, line 5, applicant recites that, “the part A indicated by a dashed line in the plate 9a for forming the arm 9 is cut off” and refers to Figure 5. In view of applicant’s Figures 3 and 4, this statement does not appear to be accurate. Perhaps applicant intended to mean that the --the dashed line. . . is cut.-- since no material appears to have been removed.

Appropriate correction is required.

***Claim Objections***

3. Claims 1-18 are objected to because of the following informalities:

In claim 1, line 12, the phrase “toward moving away” is unclear. It appears that applicant intends to simply mean --away-- or --in a direction away--.

In claim 5, line 2, “the end face” has no antecedent basis in the claims.

Appropriate correction is required.

4. Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In claim 3 applicant has not recited any further structure in the claim. Instead applicant has functionally recited how he intends the structure to be made. Since this is an apparatus claim, the claim must be limited by reciting further structure.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action: The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Iinuma (JP 3-39256).

With respect to claim 1, Iinuma discloses a wire dot print head including a plurality of cores 8b each with a wound coil 6, a plurality of armatures 2 each having an arm (the leftmost portion of the armature 2) supporting a printing wire 1 and each rockably mounted opposite the plural cores as shown in Figure 1 and disclosed in the last sentence of the English abstract of Iinuma. Further disclosed are a plurality of receiving members 12a in the shape of a plate and mounted on the core side of the arm as shown in Figure 1 and a plurality of pressing members 11 each in contact with the plurality of receiving members and pressing the armatures away from the cores.

With respect to claim 2, the term “unitarily” can mean “forming a unit.” The receiving member 12a and the arm can be considered a printing wire unit, therefore they are unitarily formed.

With respect to claim 3, since applicant has not recited any further structure in this claim it is rejected along with its parent claim.

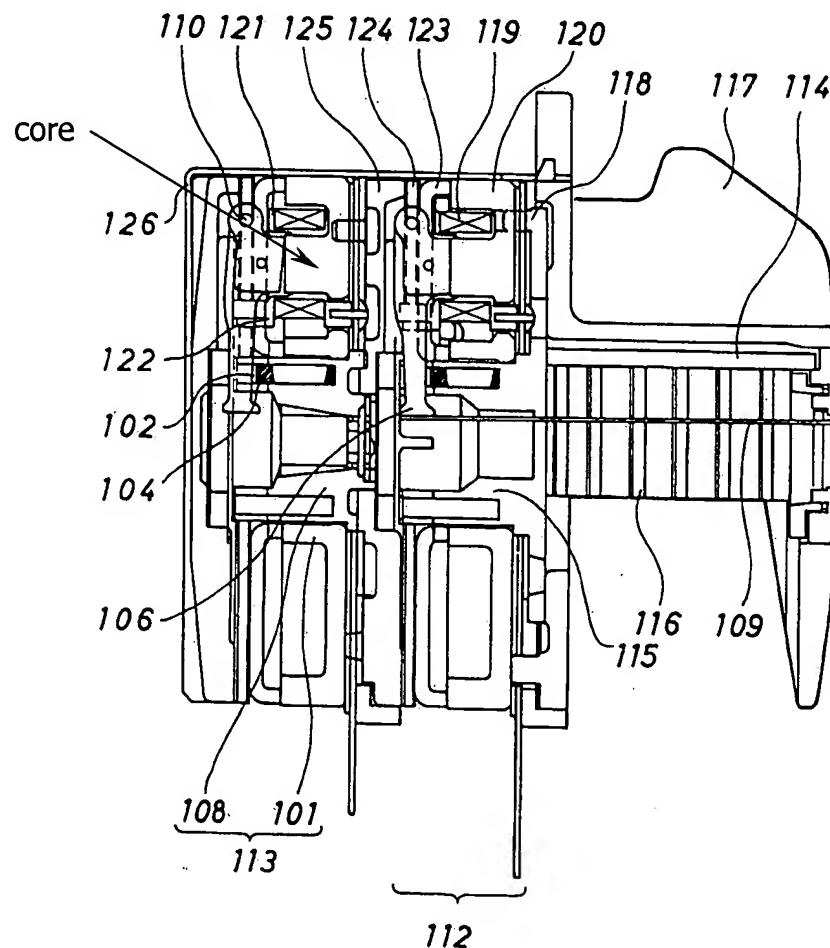
With respect to claim 4, the receiving member 12a is disposed orthogonally to the direction of pressure application by the pressing member as shown in Figure 1 of Iinuma.

7. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. (JP 3-288660).

With respect to claim 1, Sato et al. discloses a wire dot print head including a plurality of cores (as shown below in the Figure 3 taken from Figure 1 of Sato et al.) each with a wound coil 119, a plurality of armatures 106 each having an arm (as shown below in the Figure 1 taken from

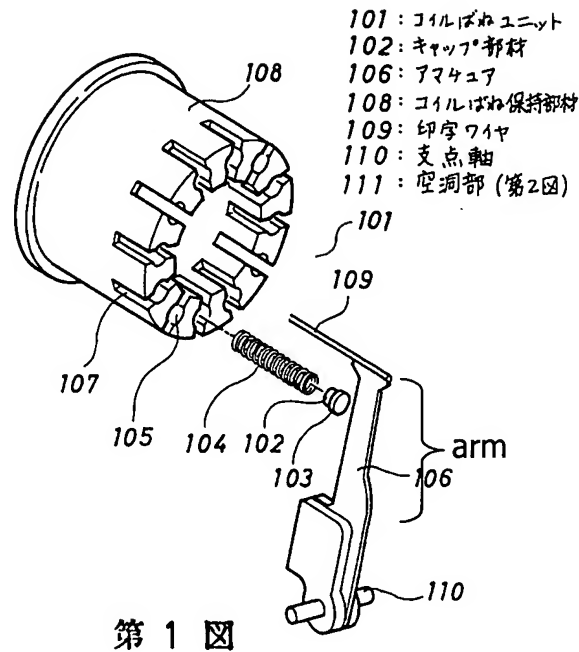
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Sato et al.) supporting a printing wire 109 and each rockably mounted on shaft 110 opposite the plural cores as shown in Figures 1 and 3 of Sato et al. Further disclosed are a plurality of receiving members 201 (as shown in Figure 4 of Sato et al.) in which at least the top portion is in the shape of a plate and mounted on the core side of the arm as indicated by Figure 1 and a plurality of pressing members 104 each in contact with the plurality of receiving members and pressing the armatures away from the cores.



第 3 図

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With respect to claim 5, Figure 1 of Sato et al. shows that the end face on the core side of the arm is smaller in width than the pressing member.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iinuma (JP 3-39256), as applied to claims 1-4 above, and further in view of Ito et al. (JP 6-227000).

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Iinuma discloses the claimed wire dot printer head except that it is not known to the examiner what the thickness of the arm is. However, Ito et al. teaches a printer head with an arm 2b that is .2mm in thickness (see paragraph [0023], second sentence). It would have been obvious to combine the teaching of Ito et al. with the printer head disclosed by Iinuma for the anti-corrosion and abrasion resistance properties of the arm as mentioned in the English abstract of Ito et al.

10. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iinuma (JP 3-39256), as applied to claims 1-4 above, and further in view of Sanders, Jr. et al. (US 4,552,064).

With respect to claims 10-13, Iinuma discloses the claimed wire dot printer except for the platen, carriage, printing medium conveyor section and a drive control. However, Sanders, Jr. et al. teach a wire dot printer including a platen 24, a carriage 34, printing medium conveyor section 28 as shown in Figure 1 of Sanders, Jr. et al. In col. 6, lines 32-40, Sanders et al. teaches some components of a control system. Although he does not explicitly recite a driving control for controlling the printer head, carriage and print medium transfer unit, such a controller would be inherent in the system to properly time these components so that images or text can properly be printed on the printing medium. It would have been obvious to combine the teaching of Sanders, et al. with the printer head disclosed by Iinuma for the advantage of automatically feeding paper to be printed in front of the printer head.



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11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (JP 3-288660), as applied to claims 1 and 5 above, and further in view of Sanders, Jr. et al. (US 4,552,064).

Sato discloses the claimed wire dot printer except for the platen, carriage, printing medium conveyor section and a drive control. However, Sanders, Jr. et al. teach a wire dot printer including a platen 24, a carriage 34, printing medium conveyor section 28 as shown in Figure 1 of Sanders, Jr. et al. In col. 6, lines 32-40, Sanders et al. teaches some components of a control system. Although he does not explicitly recite a driving control for controlling the printer head, carriage and print medium transfer unit, such a controller would be inherent in the system to properly time these components so that images or text can properly be printed on the printing medium. It would have been obvious to combine the teaching of Sanders, et al. with the printer head disclosed by Sato et al. for the advantage of automatically feeding paper to be printed in front of the printer head.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iinuma (JP 3-39256) in view of Ito et al. (JP 6-227000), as applied to claim 9 above, and further in view of Sanders, Jr. et al. (US 4,552,064).

Iinuma in view of Ito et al. discloses the claimed wire dot printer except for the platen, carriage, printing medium conveyor section and a drive control. However, Sanders, Jr. et al. teach a wire dot printer including a platen 24, a carriage 34, printing medium conveyor section 28 as shown in Figure 1 of Sanders, Jr. et al. In col. 6, lines 32-40, Sanders et al. teaches some components of a control system. Although he does not explicitly recite a driving control for

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controlling the printer head, carriage and print medium transfer unit, such a controller would be inherent in the system to properly time these components so that images or text can properly be printed on the printing medium. It would have been obvious to combine the teaching of Sanders, et al. with the printer head disclosed by Iinuma in view of Ito et al. for the advantage of automatically feeding paper to be printed in front of the printer head.

*Allowable Subject Matter*

13. Claims 6-8 and 15-17 are objected to as being dependent upon a rejected base claim and objected to for containing the above mentioned informalities, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and rewritten to overcome the above mentioned informalities.

14. The following is a statement of reasons for the indication of allowable subject matter:

Claims 6-8 and 15-17 have been indicated as containing allowable subject matter primarily for the contact face of the pressing member in contact with the receiving member such that the receiving member is formed to come in contact only with one part of the contact face.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamada and Kuriyama are cited to show wire dot printer heads with receiving members positioned on printing arms.

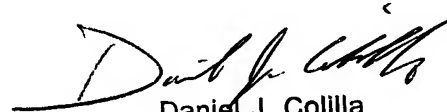
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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Colilla whose telephone number is (571)272-2157. The examiner can normally be reached Mon.-Thur. between 7:30 am and 6:00 pm. Faxes regarding this application can be sent to (703)872 - 9306.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached at (571)272-2168. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 15, 2004



Daniel J. Colilla  
Primary Examiner  
Art Unit 2854